

CLAIMS:

1. A laundry machine drum having a sheet material skin including an arrangement of a plurality of perforations therethrough, each of one or more of said perforations including:
 - 5 a shear cut in said sheet material, the sheet being deformed in the region of said shear cut such that the edge of the sheet material of one side of said shear cut is offset from the edge of the sheet material of the other side of said shear cut over at least some of the length of said shear cut such that an opening is formed between said offset edges and the apparent area of said opening is greater when viewed from at least one direction
 - 10 substantially parallel to the general plane of said drum skin in the region of said perforation than when viewed from a direction substantially perpendicular to the general plane of said drum skin in said region of said perforation.
2. A laundry machine drum as claimed in claim 1 wherein said deformed sheet material the material of one said side of said shear cut is displaced outward from the material of the other side of said shear cut relative to the intended spin axis of said drum, but the planar orientation of said regions immediately adjacent the edges of said regions at said shear cut are parallel to one another.
3. A laundry machine drum as claimed in claim 2 wherein said drum includes at least one group of two or more said perforations, said group defined by their proximity to one another, said openings of said group of perforations facing a common centre.
- 20 4. A laundry machine drum as claimed in claim 1 wherein said drum includes at least one group of two or more said perforations, said group defined by their proximity to one another, said openings of said group of perforations facing a common centre.
5. A laundry machine drum as claimed in any one of claims 1 to claim 3 wherein at least one said drum perforation is located within a dish in the drum skin extending outwardly relative to the drum spin axis.
- 25 6. A laundry machine drum as claimed in claim 4 wherein said group of drum

perforations is located within a dish in the drum skin extending outwardly relative to the drum spin axis.

7. A laundry machine drum as claimed in claim 6 wherein said dish includes two said perforations opposingly oriented to one another such that the shear cuts thereof are parallel 5 and a bridge of material is defined by said parallel cuts.

8. A laundry machine drum as claimed in claim 7 wherein said bridge of material is spaced outwardly further than the remaining material of said dish or dimple relative to said drum spin axis.

9. A laundry machine drum as claimed in claim 7 wherein said bridge of material is 10 spaced inwardly further than the remaining material of said dish or dimple relative to said drum spin axis.

10. A method of forming a perforation in a laundry machine comprising operating on a sheet material with a punch and corresponding die,

15 said punch having a leading face, and a shearing edge defining one edge of said leading face,

1 said die having a leading face and a complementary shearing edge to said punch shearing edge,

20 said leading faces and shearing edges of said punch and said die formed such that movement of said punch in an advance direction relative to said die causes said shearing edge of said punch to overlap with said shearing edge of said die at at least the middle of said shearing edges, and to overlap progressively less away from the middle of said shearing edges, to produce a sheared cut in a material placed there between which progressively reduces in displacement from its middle to its ends.

11. A method as claimed in claim 10 wherein said punch includes at least one further 25 shear edge matching said first said shear edge but spaced apart therefrom, said shear edges of said punch facing a common centre, such that said leading face is defined by said shear edges, and said die includes at least one further die shear edge matching said first die shear

edge but spaced apart therefrom, said die shear edges facing a common centre, such that said leading face of said die is defined by said die shear edges, said die shear edges matching and aligned with said punch shear edges, such that in said operation said punch and said die create a plurality of peripherally spaced shear cuts.

5 12. A method as claimed in claim 11 wherein said orientation of said die shear edges and said punch shear edges is such that said openings of said shear cuts all face toward said common centre when viewed from one side of said sheet.

13. A method as claimed in claim 12 wherein said openings of said shear cuts all face toward said common centre when viewed from adjacent said sheet on the intended inside 10 of said drum.

14. A method as claimed in claim 10 wherein

15 said punch has a trailing face parallel in one axis to said leading face, and a shear wall perpendicular in said axis to said leading and said trailing faces and connecting therebetween, said perpendicular shear wall tapering to ends thereof such that at said ends thereof said leading face and said trailing face meet, and

16 said die has a complementary anvil face for at least said trailing face of said punch, an edge of said anvil face being aligned to cooperate with said shear edge of said die to shear a sheet material by relative movement therebetween.

17 15. A method as claimed in claim 14 wherein said die includes a second shear wall 20 parallel to, opposed to and matching said first said shear wall but spaced apart therefrom such that said leading face is defined along two parallel edges thereof by said two shear walls, a second said trailing face extending at the base of said second shear wall, aligned with the first said trailing face, and said die includes a second said anvil face complementary to said second trailing face and having a shear edge thereon parallel to said 25 shear edge on said first anvil face and opposed thereto across a gap, the width of said gap matching the width of said leading face of said tool but for a tool clearance.

16. A laundry machine drum having a sheet material skin including an arrangement of

a plurality of perforations therethrough, at least one said perforations being formed according to a method as claimed in any one of claims 10 to 15.

17. A laundry machine drum having a sheet material skin including an arrangement of a plurality of openings therethrough, at least one said openings having a form such that

5 the apparent area of said opening is greater when viewed from at least one direction substantially parallel to the general plane of said drum skin in the region of said perforation than when viewed from a direction substantially perpendicular to the general plane of said drum skin in said region of said perforation.

2025 RELEASE UNDER E.O. 14176